

KSC LOD NO. 2B
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KSC LAUNCH OPERATIONS DIRECTIVE NO. 2B

To: Distribution

From:

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Rocco A. Petrone
Director of Launch Operations

Subject: OPERATIONAL DISCIPLINE DURING KSC TEST OPERATIONS

1.1 PURPOSE

This directive defines the basic operational rules to be observed by all operating elements involved in KSC test and launch operations to assure orderly, safe, and timely completion of an operation.

2.1 SCOPE

Rules concerning discipline for test management, firing room conduct and operational intercom system (OIS) communications are presented in Section 4.1. These rules are applicable within the Directorate of Launch Operations and its associated contractors as well as to operations at Launch Complexes 34, 37, and 39, including ACE-S/C control rooms in the KSC Industrial Area.

3.1 RESPONSIBILITIES

The Directors of Launch Vehicle Operations and Spacecraft Operations are responsible for insuring that all elements of their organizations and their associated contractors who participate actively in test and launch operations are given specific direction regarding their observance of operational discipline within the rules specified below. Included are Operational Management personnel (Test Supervisors, Launch Vehicle and Spacecraft Test Conductors, and Test Support Controllers) who are responsible for maintaining test discipline as specified below during all test and launch operations.

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4.1 INSTRUCTIONS

4.1.1 TEST MANAGEMENT DISCIPLINE

a. Operational personnel will not leave their assigned stations without obtaining permission from the next higher operational authority responsible for their station, and will report back to that individual when returning to station. Active stations will be manned by qualified replacements before the assigned operator is given permission to leave.

b. All problems which could delay on-time completion of any portions of the test operations will be reported up through the appropriate operational supervision channels. The individual reporting a problem should, when possible, include an estimate of the time required for troubleshooting and/or corrective action.

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c. Discussions of problems or troubleshooting operations will be conducted on the OIS except under special circumstances where a conference is authorized by the appropriate NASA test conductor. In the event a conference is deemed advisable the NASA test conductor will designate the responsible individual, necessary attendees, and location.

4.1.2 FIRING ROOM DISCIPLINE

a. Only assigned operational personnel will be granted access to the firing room floors during test operations.

b. All conversations in the firing room must be limited to subjects pertinent to the operation. Unnecessary talking will not be tolerated.

c. All personnel should be instructed to limit incoming and outgoing telephone calls to subjects pertinent to the operation. Personal phone calls will be honored only in cases of emergency.

d. The complex and/or firing room paging system will be used only for test announcements and as a last resort to establish communications. Paging individuals to answer the phone during a test operation will only be done under urgent conditions.

4.1.3 FIRING ROOM HOUSEKEEPING

All personnel will be made aware of the requirement for the maintenance of good housekeeping rules in the firing rooms. Specific instructions include the following items:

- a. Tops of consoles will be kept clear of books, papers, clothing, hard hats, food, drinks and other items at all times. ✓
- b. The practice of eating at the consoles will not be allowed. ✓
- c. Drinking coffee or other fluids at the consoles is not authorized. ✓
- d. Each individual is responsible for keeping his area clean and neat at all times. ✓
- e. Following test completion, each individual is responsible for removing his procedures and other personal equipment. Chairs should be left in order and the area should be in an orderly condition ready for another operation with a minimum of clean up. ✓
- f. Movement in the firing room will be kept to a minimum. During terminal and other critical portions of an operation all personnel will be instructed to remain at their operational stations. ✓

4.1.4 HEADSET DISCIPLINE

- a. A crosstalk test will be performed by all personnel using an OIS headset immediately upon connection of his headset to an OIS instrument in accordance with instructions issued to each headset user by operational personnel. ✓
- b. Headset mouthpiece will be kept as close to the mouth as possible. Loud, clear tones will be used when speaking.
- c. Blowing into the mike will not be used for operational checks. A short test count is adequate.
- d. When establishing communications, the station identification of both parties will always be used plus channel identification. For example: "CLTC, this is CVTS on Black 2".

e. Acknowledgement will be received before starting a message.

f. Prompt response of a brief descriptive nature will be given to all test commands. Where the length of the action necessitates a delay between initiation and completion, command will be acknowledged and work action will be verified.

g. Mike key will not be locked except when necessary to free both hands to perform a function.

h. When removing a headset, check will always be made to assure that the mike is not stowed in a keyed condition. Headsets not in active use will be unplugged from the OIS unit.

i. The OIS is to be used only for communications pertinent to the operation. Operators will be cautioned against the use of abusive language.

j. Operators will avoid the use of words or phrases which can be easily misunderstood. It is imperative that critical commands or responses be worded to preclude any possible misunderstanding.

k. Connection of unauthorized speakers or special jumpers to operational OIS units is not permitted. The appropriate communications personnel will be contacted if the requirement exists for connection of anything but the standard OIS headset units.

4.1.5 ACTIVE MONITOR SPEAKERS

a. In order to eliminate audio feedback in the OIS system during critical tests, all active speaker monitors which are within hearing distance of a headset shall be turned off.

b. The senior operational manager (Test Conductor or Test Supervisor) shall determine the time and operational areas where the speakers must be turned off. The Test and Checkout Procedure (TCP) may contain a reminder note at the appropriate test sequence.

c. Each Test Conductor and the Test Support Controller shall be responsible to the Test Supervisor for turning off all active monitor speakers in all areas under their control when directed.

END OF DIRECTIVE